

CLAIMS

What is claimed is:

1. A method for training a receiving modem, said method comprising:
 - performing segment 1 training by waiting for silence for a first set of symbol intervals;
 - performing segment 2 training by sending a plurality of alternating AB symbols for a second set of symbol intervals;
 - performing segment 3 training by sending a plurality of CD symbols for a third set of symbol intervals to generate a plurality of coefficients for an adaptive equalizer within said receiving modem; and
 - performing segment 4 training by sending a plurality of scrambled binary "1" symbols for a fourth set of symbol intervals to adjust said plurality of coefficients of said adaptive equalizer within said receiving modem.

1 2. The method of Claim 1, wherein said first set of symbol intervals includes 48
2 symbol intervals.

1 3. The method of Claim 1, wherein said second set of symbol intervals includes 64
2 symbol intervals.

1 4. The method of Claim 1, wherein said third set of symbol intervals includes 64
2 symbol intervals.

1 5. The method of Claim 1, wherein said fourth set of symbol intervals includes 48
2 symbol intervals.

1 6. The method of Claim 1, wherein said performing segment 4 training further includes
2 concurrently verifying a plurality of estimated symbols generated from a subset of said
3 plurality of scrambled binary 1 symbols.

1 7. A computer program product residing on a computer usable medium for training a
2 receiving modem, said computer program product comprising:

3 program code means for performing segment 1 training by waiting for
4 silence for a first set of symbol intervals;

5 program code means for performing segment 2 training by sending a
6 plurality of alternating AB symbols for a second set of symbol intervals;

7 program code means for performing segment 3 training by sending a
8 plurality of CD symbols for a third set of symbol intervals to generate a plurality
9 of coefficients for an adaptive equalizer within said receiving modem; and

10 program code means for performing segment 4 training by sending a
11 plurality of scrambled binary "1" symbols for a fourth set of symbol intervals to
12 adjust said plurality of coefficients of said adaptive equalizer within said receiving
13 modem.

1 8. The computer program product of Claim 7, wherein said first set of symbol intervals
2 includes 48 symbol intervals.

1 9. The computer program product of Claim 7, wherein said second set of symbol
2 intervals includes 64 symbol intervals.

1 10. The computer program product of Claim 7, wherein said third set of symbol
2 intervals includes 64 symbol intervals.

1 11. The computer program product of Claim 7, wherein said fourth set of symbol
2 intervals includes 48 symbol intervals.

1 12. The computer program product of Claim 7, wherein said program code means for
2 performing segment 4 training further includes program code means for concurrently
3 verifying a plurality of estimated symbols generated from a subset of said plurality of
4 scrambled binary 1 symbols.

1 13. A modem comprising:

2 means for waiting for silence for a first set of symbol intervals;

3 means for receiving a plurality of alternating AB symbols for a second set
4 of symbol intervals;

5 means for receiving a plurality of CD symbols for a third set of symbol
6 intervals to generate a plurality of coefficients for an adaptive equalizer within said
7 modem; and

8 means for receiving a plurality of scrambled binary "1" symbols for a fourth
9 set of symbol intervals to adjust said plurality of coefficients of said adaptive
10 equalizer.

1 14. The modem of Claim 13, wherein said first set of symbol intervals includes 48
2 symbol intervals.

1 15. The modem of Claim 13, wherein said second set of symbol intervals includes 64
2 symbol intervals.

1 16. The modem of Claim 13, wherein said third set of symbol intervals includes 64
2 symbol intervals.

1 17. The modem of Claim 13, wherein said fourth set of symbol intervals includes 48
2 symbol intervals.

1 18. The modem of Claim 13, wherein said means for performing segment 4 training
2 further includes means for concurrently verifying a plurality of estimated symbols generated
3 from a subset of said plurality of scrambled binary 1 symbols.